Salvage of Hemlock Looper-Killed Timber in the Robson Valley

Complaint Investigation 950039

FPB/IRC/32

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The Investigation

Background

Between 1992 and 1994, there was an epidemic of western hemlock looper (the looper) in the Prince George and Robson Valley Forest Districts. The looper is an insect that damages and sometimes kills trees by feeding on and stripping the trees of foliage. Periodically, looper populations increase sharply for several years and then decline. Such an increase happened between 1991 and 1994, when the looper damaged 14, 000 hectares of forest in the Robson Valley. The damage occurred as patches of partly, or completely defoliated, forest within a much larger forest area.

In 1995, the Robson Valley Forest District (the district) and local forest companies proposed salvage harvesting of large areas of severely damaged old growth forest. Salvage harvesting would remove trees that were dead, dying or deteriorating before the wood degraded and was no longer merchantable. Cutblocks of up to 800 hectares were originally proposed in forest development plans for the valley. By early 1996, when the silviculture prescriptions for those cutblocks were approved, the cutblocks had been reduced to less than 120 hectares to allow management of other forest values.

Cutblock

The Code defines a cutblock as an area of land identified in a forest development plan, licence to cut, road permit, or Christmas tree permit, where timber has been or will be harvested.

At the same time, the Forest Practices Code came into force. The Code, and government announcements preceding its implementation, created high public expectations. The public learned that cutblocks would normally be smaller than 60 hectares, that areas would not normally be proposed for harvest until adjacent areas had greened-up,[1] that old growth would be protected and that biological diversity would be maintained. In that context, forest practices that were approved to salvage looper-killed forest appeared to be inconsistent with the Code. Consequently, in late 1995, the Forest Practices Board (the Board) received a complaint from a local resident about the forest practices proposed for the salvage harvesting. The complainant was concerned about cutblock size, green-up conditions, biological diversity,[2] consistency with the local land and resource management plan

Land and resource management plan

An LRMP is a strategic, multi-agency, integrated resource plan at the sub-regional level. It is based on the principles of enhanced public involvement, consideration of all resource values (such as biodiversity, old growth, recreation, wildlife winter ranges), consensus-based decision making, and resource sustainability.

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[1] Green-up is the state of a new stand of trees in previously-logged areas where the height and density of the new forest provides a level of hydrological, visual and wildlife habitat recovery that allows adjacent areas to be proposed for logging. Specific green-up requirements are provided in the Operational Planning Regulation.

[2] The *Operational Planning Regulation* defines biological diversity as "the diversity of plants, animals and other living organisms...and the diversity of genes, species, ecosystems and the evolutionary and functional processes that link them."

(LRMP), and harvesting in deferred areas.[3]

> ***Small Business Forest Enterprise Program (SBFEP)***
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> *SBFEP is a Ministry of Forests progmm that enables registered individuals or companies to acquire rights to harvest Crown timber under a timber sale licence. The Ministry of Forests holds responsibility for most forest planning and management requirements.*

The complaint involved the Robson Valley Forest District as a regulatory agency and as a proponent of the Small Business Forest Enterprise Program; the Ministry of Environment, Lands and Parks (MELP); and two corporate licensees: Slocan Forest Products Ltd. (Slocan) and Zeidler Forest Industries Ltd. (Zeidler) (collectively referred to as the licensees). The complainant indicated that four aspects of the proposed salvage harvesting were of concern:

1. clearcuts were inconsistent with the Robson Valley Land and Resource Management Plan (LRMP);
2. clearcuts were allowed in, or adjacent to, deferred or protected areas;
3. clearcut blocks were too large and approved before adjacent areas had greened-up; and
4. clearcuts were allowed in high biodiversity areas.

The complaint originally included a fifth concern: that streams with fish had been incorrectly classified. The complainant knew that some streams supported fish downstream of cutblocks but noticed that those streams were classified as non fish-bearing in the cutblocks. He did not know that different portions of streams could have different classifications. That misunderstanding was clarified early in the investigation and the concern was resolved.

> ***Forest development plan***
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> *A forest development plan is an operational plan which provides the public and government agencies with information about the location and scheduling of proposed roads and cutblocks for harvesting timber over a period of at least five years. The plan must specify measures that will be carried out to protect forest resources (including water, fisheries, and other forest resources). It must also illustrate and describe how objectives and strategies established in higher level plans, where they have been prepared, will be carried out. Site specific plans are required to be consistent with the forest development plan.*

The need to salvage the timber was the primary consideration underlying the approval of the forest development plans and silviculture prescriptions at issue in this complaint. Therefore, the Board also examined how the district manager applied salvage considerations when he approved the plans.

The complainant was concerned about many cutblocks. In order to keep the investigation manageable, the Board examined only those cutblocks that were:

1. approved after June 15, 1995;
2. designated for salvage harvesting because of the hemlock looper infestation; and
3. mentioned in correspondence from the

[3] Deferred areas are areas where harvesting must be delayed to meet higher-level plan objectives or to provide adequate management of riparian areas, biodiversity, and other resource needs. They can be designated in an approved higher level plan or temporarily designated by a district manager.

complainant.

Accordingly, five cutblocks were examined. The five cutblocks were not a representative sample of blocks approved for salvage harvesting—they were simply those cutblocks that met all of the above criteria.

> ***Operational plan***
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> *Forest Practices Code of British Columbia Act states that within the context of area-specific management guidelines, operational plans detail the logistics for development. Methods, schedules, and responsibilities for accessing, harvesting, renewing and protecting the resource are set out to enable site-specific operations to proceed. Operational plans include forest development plans, logging plans, access management plans, range-use plans, silviculture prescriptions, stand management prescriptions and five year silviculture plans.*

The dates when operational plans (e.g. forest development plans and silviculture prescriptions) were approved were important in the circumstances of this complaint. The forest development plans for these cutblocks were approved in September and November of 1995, before the complaint was filed. Silviculture prescriptions were approved between December 22, 1995, and March 15, 1996, within three months of when the complaint was filed. Those operational plan approvals occurred during two periods when the Code was being phased in. Consequently, significantly different Code provisions applied to forest development plan approvals than to silviculture prescription approvals. Forest development plans approved before December 15, 1995, did not have to meet the Code's content requirements, including requirements to describe measures to protect biological diversity.[4] The silviculture prescriptions, approved after December 15, did have to describe measures to protect biological diversity.[5]

Investigation Findings

1. Consistency of forest development plans with the Robson Valley Land and Resource Management Plan

The complainant asserted that cutblocks were not consistent with agreements regarding biological diversity designation in the Robson Valley LRMP. The cutblocks were approved under forest development plans, so the Board examined whether those plans were consistent with the LRMP.

The LRMP planning process that began in the spring of 1992 was still underway at the time of the complaint. Although the complainant believed that the LRMP table had reached consensus regarding biological diversity designation in the Robson Valley, interviews with many LRMP participants revealed that no consensus had been reached. With no consensus, there was no basis for forest development plans to be consistent with designations in the LRMP. In any event,

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[4] *Operational Planning Regulation*, section 15(7) required a description of measures to protect forest resources, including biological diversity.

[5] *Operational Planning* Regulation, section 39(2)(w).

the LRMP had not been designated as a higher level plan for Code purposes, so there was no legal requirement that a forest development plan be consistent with it.

Finding #1

There was no consensus about designation of biological diversity in the Robson Valley LRMP, so forest development plans were not inconsistent with the LRMP in that regard. Additionally, the LRMP had not been designated as a higher level plan under the Code, so forest development plans did not legally have to be consistent with it.

2. Harvesting in, or adjacent to, protected areas

The complainant asserted that harvesting was proposed in or beside two protected areas: the West Twin and an old growth area near the Ptarmigan River. The Board determined that there was no cutblock proposed in or immediately beside either area. Although one cutblock did come within 50 metres of the West Twin area, that area included a buffer. In addition, neither area had formal protected status under the Code. The area near Ptarmigan River had been suggested by a lichenologist as a candidate old growth reserve but had not been designated as any type of protected reserve. The West Twin area was an "area of interest" under the provincial Protected Areas Strategy but was not designated. No special protection was legally required in or adjacent to either area.

Finding #2

No harvesting was proposed in or immediately adjacent to any protected area.

3. Approval of forest development plans with large cutblocks and cutblocks without adjacent green-up

The complainant asserted that the cutblocks far exceeded the maximum 60-hectare block size specified in the Code, and that many blocks were proposed for harvest before previously harvested adjacent cutblocks had greened-up.

As planning progressed for the salvage cutblocks in 1995 and 1996, the size of the proposed cutblocks was significantly reduced largely in response to public concern. For example, in April 1995, a licensee had proposed a 700- to 800- hectare opening. Government agencies and the licensee reviewed, discussed and modified the cutblock so that, by August 1995, the licensee had divided it into two blocks: one of 350 hectares and one of 246 hectares, with a 700-metre wide area left intact between them. Nevertheless, many cutblocks remained well above the Code's general regional limit of 60 hectares.[6]

[6] Section 3 of the *Cutblock and Road Review Regulation* stated that the maximum cutblock size for the Prince George forest region was 60 hectares; however, the Act gave district managers discretion to accept larger cutblocks.

The forest development plans for the cutblocks investigated were approved in September and November of 1995. These approvals occurred during the first of two transitional periods when Code provisions were being phased in.[7] Section 229(2) of the *Forest Practices Code of British Columbia Act* (the Act) required that each cutblock within those forest development plans conform to cutblock size and green-up requirements provided in the *Cutblock and Road Review Regulation.*[8] Section 3(2)(c) of the regulation set a 60-hectare maximum for cutblock size. Section 4 required that previously harvested areas had to be greened-up before newly proposed adjacent cutblocks could be cut. Nevertheless, section 229(2) of the Act also allowed a district manager to approve forest development plans with non-conforming cutblocks if he was satisfied that such plans were "consistent with conservation and good management of forest resources." This differs somewhat from the test that was applicable in the second transition period after December 15, 1995. After that date, section 41 of the Act said that a forest development plan could only be approved if the district manager was satisfied that the plan would adequately manage and conserve the forest resources of the area to which it applies. The Board did not investigate whether biological diversity provisions were considered in subsequent forest development plans that were approved for the same area.

In the circumstances, the forest development plans at issue in this complaint were approved in the first transition period. They included large cutblocks and proposed harvest in blocks even though adjacent blocks were not greened-up. The transitional provisions of the *Cutblock and Road Review Regulation* applied, so larger cutblocks and cutblocks without adjacent green-up could be approved if the district manager was satisfied that such cutblocks were consistent with conservation and good management of forest resources. In this case, ministry officials completed the cutblock and road review process developed by the ministry, so they could meet the requirements of the regulation. Based on the individual cutblock reviews, the district manager decided to approve the forest development plan despite its large cutblocks adjacent to blocks that were not greened-up. The Board is satisfied that the district manager, by completing the cutblock and road review process, considered whether the approval of large cutblocks without green-up of adjacent blocks was consistent with the conservation and good management of forest resources.

Finding #3

The information considered in the cutblock and road review process provided adequate information for the district manager to be satisfied that the large cutblocks, without green-up of adjacent blocks, were consistent with conservation and good management of the forest resources. Approval of the forest development plan that included those blocks complied with the Code.

At the time he approved the forest development plans, the district manager felt that he was under strong pressure from the logging community to move forward with salvage harvesting because there was a shortage of wood available for local mills. In addition, a significant delay in

[7] The Code requirements were phased in through two transition periods. Many requirements were relaxed from June 15, 1995, to December 15, 1995. Some relaxation continued until June 14, 1997.

[8] Section 229(2) of the Act.

harvesting would have meant that the trees killed by the hemlock looper outbreak would deteriorate to the point where salvage harvesting was no longer economically viable. It was important that the salvage-harvest cutblocks were given timely approval. Although the hemlock looper infestation was concentrated in low-quality timber, and access and logging costs were lower than in surrounding areas, delay meant potential economic loss. Therefore, the district manager decided to allow salvage harvesting and then considered how to conserve biological diversity in the course of salvage harvesting.

The Board accepts the district manager's reasons for allowing salvage harvesting in response to the looper damage. However, the salvage harvesting resulted in circumstances that were less than optimal, such as large block sizes, limited green-up of adjacent areas and reduced opportunity to provide undamaged forest reserves for other forest users. After approving the forest development plans to salvage looper-damaged stands, it would have been appropriate, in the Board's view, for the district manager to ensure that extra measures to maintain biological diversity were incorporated into silviculture prescriptions. Silviculture prescriptions could implement stand-level management to maintain biological diversity by incorporating measures to retain partially-defoliated wildlife tree patches and stands with vertical and structural variability.

Finding #4

The district manager's decision to approve forest development plans that included large cutblocks without adjacent green-up to salvage looper-damaged timber was reasonable. However, approval of forest development plans with cutblocks larger that 60 hectares before adjacent areas had greened-up potentially reduced options to conserve and manage for biological diversity. Incorporation of extra measures in silviculture prescriptions to conserve biodiversity at the stand- or cutblock-level would have been appropriate.

4. Measures to protect biological diversity in silviculture prescriptions

The complainant stated that many cutblocks were located in biologically diverse 300-year-old forests. He was concerned that forest practices planned for the salvage cutblocks did not adequately conserve biological diversity.

Biological diversity is a forest resource, along with timber, water, wildlife, fisheries, recreation, botanical forest products and forage. Biological diversity can be managed at both the landscape- (e.g., watershed) and the stand-level. Forest development plans should normally describe measures to be taken during proposed forest operations to meet biological diversity objectives at the landscape-level. In this case, the forest development plans were approved during a transitional period when biological diversity content was not required by the Code. The silviculture prescriptions were approved later, when the Code's operational plan content requirements applied. Therefore, measures to manage biological diversity were required in the silviculture prescriptions.

Silviculture prescriptions describe forest resources and prescribe forest practices at the stand-level, not the broader landscape-level. At the stand-level, the *Biodiversity Guidebook* recommends managing biological diversity by maintaining stand structure, tree and vegetation species composition and coarse woody debris, among other things. The Board examined whether the district manager had considered adequate information to be satisfied that the silviculture prescriptions would adequately manage and conserve biological diversity at the cutblock- or stand-level.

a) Did approval of silviculture prescriptions comply with the legal requirements of the Code?

The Board examined whether or not the decision to approve silviculture prescriptions that specified large cutblocks, when adjacent blocks had not yet greened up, complied with Code requirements. The silviculture prescriptions for the cutblocks involved in this complaint were approved between December 22, 1995, and March 15, 1996. That was after the transition period during which the forest development plans had been approved. After December 15, 1995, application of the Code differed in two ways. First, the Code's requirements for content in operational plans (including silviculture prescriptions) applied, so the silviculture prescriptions had to describe actions to accommodate biological diversity. Second, the district manager had to be satisfied that the plan "adequately managed and conserved forest resources."

The Code does not specify how silviculture prescriptions should address biological diversity, except to require that the prescription describe any actions that will be taken to accommodate the forest resources identified in the forest development plan. The forest development plans did not address biodiversity and also did not describe any special associated actions. However, each of the five silviculture prescriptions examined in this investigation provided some information about management of biological diversity. The district manager stated that, in reviewing the silviculture prescriptions, he had carefully considered their provisions for the management of biological diversity. The Board finds that the district manager was satisfied that the silviculture prescriptions would adequately manage and conserve the biological diversity of the area to which they applied.

Finding #5

The district manager complied with the requirements of the Code by satisfying himself that the silviculture prescriptions for the five cutblocks would adequately manage and conserve biological diversity.

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b) Was approval of the silviculture prescriptions reasonable?

The district manager had complied with the Code by satisfying himself that the silviculture prescriptions would adequately manage and conserve biological diversity. However, the Board went on to look into whether his decision was reasonable considering the information available to him. Biological diversity can be a complex resource to measure and to manage. The Board looked at information available to guide the district manager in assessing how to manage and conserve biological diversity. The information available (not in order of priority) included:

1. comments from the public;
2. a scientific report by a lichenologist;
3. operational planning regulations concerning biological diversity;
4. recommendations from the *Biodiversity Guidebook*; and
5. general and block-specific recommendations from the Ministry of Environment, Lands and Parks.

i) Comments from the public

There were significant concerns and, in some cases, recommendations expressed by the public regarding biological diversity management in the looper-damaged stands. The Ministry of Forests held a public meeting in February 1995 to discuss the proposed salvage operations. At that meeting members of the public stressed the importance of maintaining biological diversity. In response to this early 1995 meeting and subsequent advertisements of silviculture prescriptions, many letters were submitted by members of the public. The licensees and district staff submitted comprehensive written responses to all but one letter. Later, in December 1995, a Robson Valley LRMP meeting was held to discuss operational planning for salvage harvest. It was attended by the licensees, district staff and MELP representatives. Biological diversity was discussed extensively and those present made detailed management recommendations, which included minimum wildlife tree patch size and minimum spacing between patches.

The district manager was aware of, and considered, public comments about biological diversity. He stated that he believed that the comments came from a small but vocal minority but that he did not dismiss the comments because of that belief.

ii) Scientific report by a lichenologist

In response to concerns raised by participants in the Robson Valley LRMP in February 1995, the district manager hired a consulting lichenologist to assess the diversity of lichen species in stands in the Robson Valley. The consultant described the stands as "antique forests" developed without disturbance over thousands of years. Such old stands typically had high lichen diversity, which is one aspect of biological diversity. However, the lichenologist also noted that stands with high looper mortality have little long-term value for the maintenance of lichen diversity, although stands that were only partially defoliated were likely to retain their full lichen floras.

The complainant had noted that portions of the proposed salvage harvest cutblocks were only partially defoliated. Those portions would presumably be important to maintaining biological diversity, but they were included in the areas to be harvested. The district manager stated that he was aware of, and considered, the implications of the lichenologist's July 1995 report when he approved the silviculture prescriptions for the salvage harvest cutblocks. However, he believed that stands with high mortality had little long-term value for the maintenance of lichen diversity.

iii) Operational planning regulations concerning biological diversity

The *Operational Planning Regulation* emphasizes that measures to maintain biological diversity are particularly required when approving forest development plans where cutblock size and green-up conditions deviate from the limits provided by the Code.[9] (Biological diversity objectives had to be complied with and cutblock design had to be consistent with the structural characteristics and the temporal and spatial distribution of natural openings.) Those provisions do not apply directly to silviculture prescriptions. Silviculture prescriptions need only describe any actions that will be taken to accommodate biological diversity identified in the applicable forest development plan.

In the circumstances of this complaint, the forest development plans did not have to include biological diversity content since they were approved in the first transition period of Code implementation. Therefore, the silviculture prescriptions did not have to include biological diversity conservation measures. Nevertheless, biological diversity measures were provided in silviculture prescriptions for all five cutblocks examined in this investigation.

Even though the Operational Planning Regulation provisions about biological diversity management did not apply to the silviculture prescriptions here, the district manager stated that he was aware of them. However, he believed that options to maintain biological diversity were limited in forests that were dead due to insect infestations.

iv) Recommendations in the Biodiversity Guidebook

The *Biodiversity Guidebook* was published and distributed in September 1995, four to seven months before the district manager approved the silvicultural prescriptions involved in this complaint. The guidebook summarizes practices (as of 1995) to manage biological diversity and describes stand-level structures that create or maintain biological diversity. These include:

- standing dead trees or snags;
- coarse woody debris consisting primarily of fallen decaying trees;
- large-diameter living trees;
- a diversity of tree species;
- vertical and horizontal structural diversity; and
- forest soils.

The guidebook also recommends strategies for managing biological diversity at both the landscape and stand-levels:

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[9] Sections 21 and 23 (similar to the current sections 11 and 68) allowed variation in cutblock size and green-up requirements if biodiversity was considered.

- The recommended distribution of patch sizes for the stand types of the Robson Valley includes cutblocks up to 250 hectares in size, although large cutblocks should make up only 20 to 40 percent of a landscape unit.

- Stand-management prescriptions for maintaining biological diversity should concentrate on maintaining existing structures.

- The distance between wildlife tree patches should not be greater than 500 metres.

- Wildlife tree patch retention levels should range from 3 to 18 percent, depending on how much of a biogeoclimatic subzone is available for harvest and how much area available for harvest has already been harvested without wildlife tree retention. (In the stand types of the Robson Valley, a retention level of six to ten percent applied).

The district manager stated that he was aware of the guidebook recommendations. However, he was of the opinion that there were limited options to maintain existing structures in stands with a high level of tree mortality. He believed that wildlife tree patches would not be effective because so many trees were dead as a result of the looper infestation. In addition, he felt that shallow rooting due to a high water table and wind conditions often made it impractical to preserve individual live trees on the cutblocks. Overall, the district manager concluded that options to maintain biological diversity through maintenance of existing stand structures, as recommended by the guidebook, would be limited in stands that were largely killed by the looper. Even so, each silviculture prescription incorporated measures to maintain existing stand structures ranging, in the Board's opinion, from non-committal to excellent.

v) General and block-specific recommendations from the Ministry of Environment, Lands and Parks

General and block-specific guidance in managing for biological diversity was provided by the Ministry of Environment, Lands and Parks (MELP) through the inter-agency referral process. Because of a staff vacancy, MELP provided limited oral comments for the 1995 forest development plans. Most of MELP's input about biological diversity in the five contentious cutblocks was provided as comments on draft silviculture prescriptions. MELP comments on the cutblocks involved in this complaint reflected variation in block conditions.

The proposed blocks were altered to incorporate MELP comments so that the final silviculture prescriptions reflected MELP advice. For example, when MELP advised the licensees to map out islands of dead or live trees and dead trees as wildlife tree patches, that was done. Landings were kept at least 30 metres from watercourses, as advised by MELP. A 50- to 100-metre reserve was left between two cutblocks. On the largest blocks, wildlife tree patches were mapped and recorded as requested by MELP, and one large block was significantly reduced in size. Overall, MELP was satisfied with the wildlife tree patches and biological diversity provisions of each silviculture prescription. The district manager ensured that MELP comments regarding biological diversity were implemented.

Finding #6

The district manager gave priority to facilitating salvage harvesting but considered other factors when deciding on measures to conserve biological diversity. Those factors included public comments and a report of a lichenologist, proposed regulations, guidebooks, and advice from other agencies. All were relevant to the decision and provided an adequate basis to decide if biological diversity could be managed and conserved during salvage of looper-damaged timber.

In summary, the approval of forest development plans with large cutblocks and cutblocks with limited green-up of adjacent areas potentially reduced options to conserve and manage biological diversity at the landscape-level. That increased the need to manage and conserve biological diversity at the stand-level in silviculture prescriptions.

The district manager had no written record describing how he considered the various factors relevant to conserving biological diversity in the silviculture prescriptions. This made it difficult to determine exactly how he had decided that biological diversity was adequately managed and conserved when he approved the silviculture prescriptions. However, his explanation, and those of other district staff, indicated that the district manager did consider many relevant factors.

Areas reserved as wildlife tree patches within the cutblocks were well below the minimum recommended for the Robson Valley in the *Biodiversity Guidebook*. Applying the *Biodiversity Guidebook* calculations to the draft landscape units in the Robson Valley would result in recommendations to set six to ten percent of each cutblock area aside as wildlife tree patches. All but one of the cutblocks investigated had less than three percent set aside. On the other hand, all recommendations made by MELP for the silviculture prescriptions were incorporated.

Overall, the Board finds that relevant factors were considered and that there was adequate information for the district manager to reasonably decide to approve the silviculture prescriptions in the circumstances of this complaint.

Finding #7

The district manager failed to provide a written record of how he determined the adequacy of stand-level biological diversity management factors to be incorporated when he approved cutblocks for salvage harvesting in the area of the complaint. Nevertheless, by considering relevant factors and ensuring that licensees incorporated block-specific advice from MELP, the district manager's approval of the silviculture prescriptions was reasonable.

Although the district manager's 1996 decision to approve the silviculture prescriptions was reasonable under the circumstances, the Board did not determine whether biodiversity was adequately managed and conserved during the salvage harvesting in the Robson Valley. On one hand, measures to manage biodiversity were incorporated in each of the blocks the Board investigated, and the district manager did incorporate the advice about biodiversity that he received from MELP. On the other hand, there were no landscape-level measures to address biodiversity. At the stand-level, retention of wildlife tree patches was well below the applicable

minimum recommended in the *Biodiversity Guidebook*, except in one cutblock. There was no written record provided by the district manager or MELP to explain or justify the decisions to approve the blocks, and many of the key individuals involved are no longer available to interview.

Thus, the Board did not determine if the measures taken were adequate. It is possible that greater stand-level retention of wildlife tree patches in future blocks and adequate landscape-level measures such as providing for old growth management areas, could compensate for any shortcomings that did result from the salvage operations.

Finding #8

The Board did not determine if the measures in the approved silviculture prescriptions were adequate to conserve biodiversity in the Robson Valley. Greater stand-level retention of wildlife tree patches in future blocks, coupled with adequate measures at the landscape-level, could compensate for any shortcomings that resulted from the salvage operations.

Conclusions

The circumstances that led to this complaint occurred several years ago at a time when the Code, and particularly its biodiversity provisions, were new. An epidemic of western hemlock looper in the early 1990s partially or completely defoliated thousands of hectares of forest in the Robson Valley. The district manager wanted to proceed with salvage harvesting while the timber still had some value. Thus, in late 1995 and early 1996, he approved plans that allowed large cutblocks to be harvested before adjacent areas had greened-up. At the time, transitional provisions limited the application of Code requirements that put a maximum size on cutblocks and required green-up of adjacent areas before additional harvesting occurred. The importance of managing and conserving biological diversity at the landscape-level, as well as the stand-level, was not well established. With these qualifications in mind, the Board reached several conclusions about the concerns raised by the complainant.

At the time of the complaint in late 1995, the LRMP planning process that was underway in the Robson Valley had not reached consensus about landscape designations for biological diversity. Although it would have been desirable for operational plans to be consistent with the LRMP, that was not possible as there was no consensus at that time. Furthermore, there were no cutblocks approved in, or immediately adjacent to, protected areas.

The Board concludes that the district manager complied with the Code in late 1995 when he approved the forest development plans so that looper-damaged timber could be salvaged. Approval of forest development plans with large cutblocks to be harvested before adjacent areas were greened-up complied with the Code because provisions of the *Operational Planning Regulation* that limited cutblock size and set green-up conditions were not in effect when the plans were approved. Instead, the district manager reviewed licensees' reports on cutblocks to ensure that harvest would be consistent with the conservation and good management of forest resources, as required by the transitional provisions of the Code.

The Board also concludes that it was important to incorporate provisions and practices to maintain biological diversity in operational plans for salvage operations. Transitional provisions resulted in biological diversity considerations not being applied at the landscape-level in the forest development plans approved in late 1995. Landscape-level provisions could have been applied in subsequent forest development plans, but in the absence of a commitment to do so, biological diversity maintenance had to be applied at the stand-level through silviculture prescriptions. In approving the silviculture prescriptions for the five cutblocks of

concern in the spring of 1996, the district manager considered various factors and information sources relevant to the management of biological diversity. He ensured that recommendations from the Ministry of Environment, Lands and Parks, along with other relevant information, were adopted in silviculture prescriptions. It was reasonable for the district manager to approve the prescriptions.

The silviculture prescriptions did incorporate some stand-level measures to manage biological diversity in the cutblocks considered in this complaint. The silviculture prescriptions also included measures suggested by MELP but, except in one of the cutblocks, the retention of wildlife tree patches was less than the minimum recommended in the *Biodiversity Guidebook*. In the absence of landscape-level planning and long term commitments to recognize the impact of the severe hemlock looper infestation, and with the passage of time since the events, the Board did not determine whether the measures were adequate.

Recommendations

The circumstances that led to this complaint occurred in 1995 and 1996, when many factors restricted the range of measures that were applied to maintain biological diversity in the course of salvaging timber from severely damaged forests. However, forest management practices have evolved since. The Board makes the following recommendations and will review progress to meet these recommendations before the end of 2000:

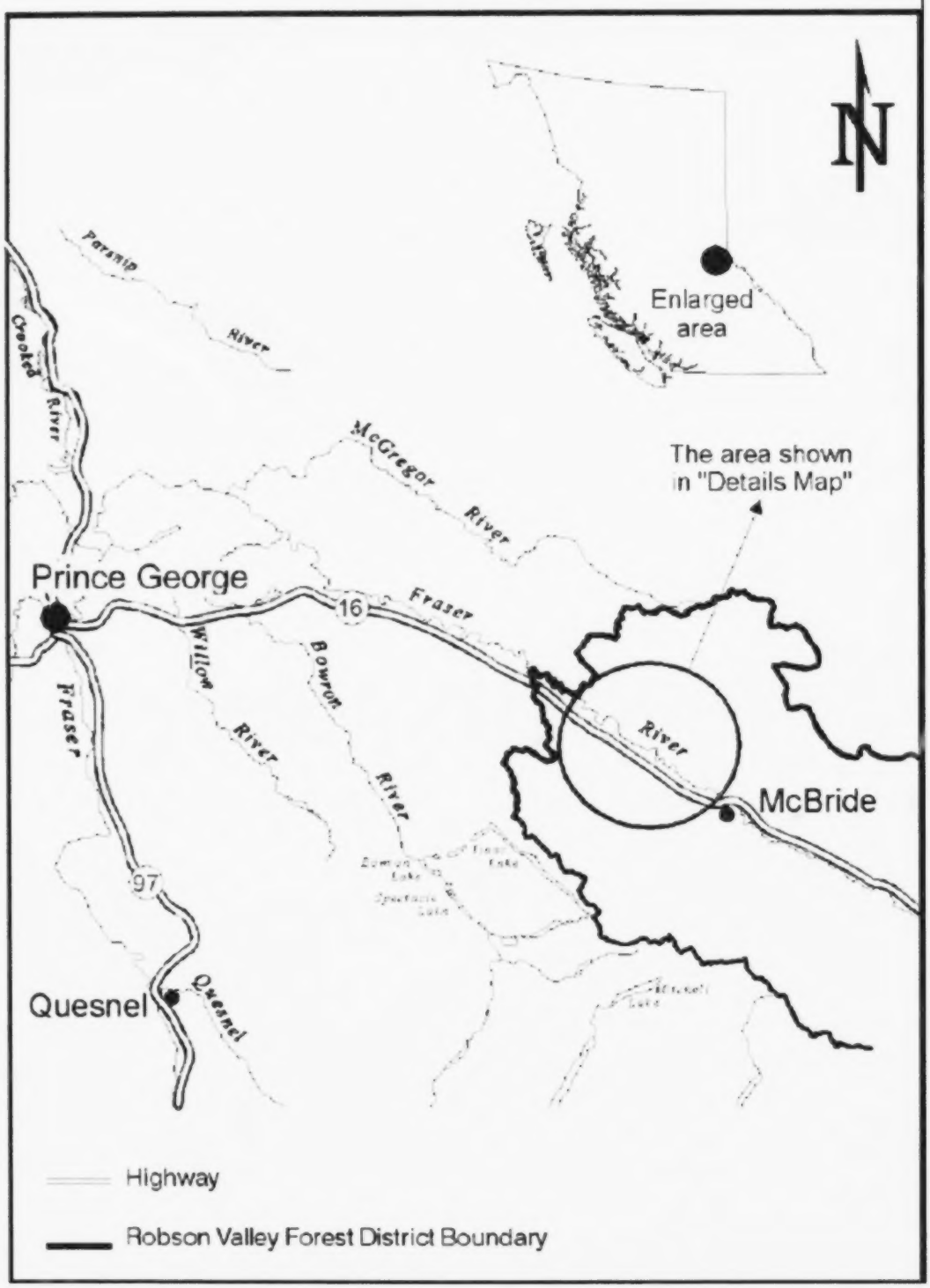
1. Forest managers should deal proactively with forest health issues. Options to manage for all forest resources are reduced if a forest health problem, such as the hemlock looper outbreak, expands over large areas.

2. When approving large cutblocks for salvage purposes, district managers should ensure that plans incorporate measures to manage biological diversity at both the landscape and stand-level. To allow such balancing in future, government should assign a high priority to the designation of landscape units and should assist district managers to designate and set biological diversity objectives for each unit. Then, if options for stand-level management are limited due to insect damage or site conditions, district managers can compensate by providing a higher emphasis on measures to protect biological diversity in other stands within a landscape unit.

3. In the Robson Valley Forest District, the district manager should prepare and implement a landscape-level plan for the area affected by the hemlock looper salvage operations. That plan should address biodiversity management issues set out in the *Biodiversity Guidebook* and identify old growth management areas of sufficient size to be commensurate with the larger cutblocks necessitated by the hemlock looper salvage operations.

4. When operational plans involve a significant number of blocks larger than the regional maximum specified by the Code, district managers should document the factors considered in the approval of large blocks and provide reasons for these approvals. These reasons should be available to the public upon request.

Location of Hemlock Looper-Killed Timber Complaint



Details of Hemlock Looper-Killed Timber Complaint